

Attorney Docket # 2003B005/2

**REMARKS/ARGUMENTS**

Reconsideration of the claims in view of these amendments and remarks is respectfully requested.

Applicant thanks the Examiner for entering the submission filed on October 5, 2006, and withdrawing the finality of the previous Office Action.

**AMENDMENTS TO THE DETAILED DESCRIPTION**

The following amendments to the detailed description were made in this response:

Paragraph [0072] was amended to remove "ethylidene norbornene" from the list of potential  $\alpha$ , internal non-conjugated diene monomers. One of ordinary skill in the art would recognize that "ethylidene norbornene" is not an  $\alpha$ , internal non-conjugated diene monomer and that its placement in this list was a mistake. One of ordinary skill in the art would recognize that "ethylidene norbornene" is an unintentional misspelling of ethylidene norbornene. One of ordinary skill in the art would recognize that the appropriate correction would be that the diene monomer could be ethylidene norbornene or an  $\alpha$ , internal non-conjugated diene. As one of ordinary skill in the art would not only recognize the error in the specification but would also recognize the appropriate correction, the amendments to these paragraphs are not new matter. See M.P.E.P. §2163.07(II) citing *In re Oda*, 443 F.2d 1200 (CCPA 1971).

**AMENDMENTS TO THE CLAIMS**

Claim 29 has been amended to state that the composition has a "branching index of less than 1.0", and "the polypropylene copolymer has a crystallization temperature ( $T_c$ ) of 110 °C or more." Support for the amendment regarding the branching index may be found in paragraphs 25 and 26 of the application as originally filed. Support for the amendment regarding the crystallization temperature may be found in claim 36 as originally filed and paragraph 67 of the application as originally filed.

USSN: 10/717,865

7 of 13

I:\BPC\LA\W\Prosecution\HMCC Prosecution\2003\2003B005\1\SL\2003B005-2\2003B005-2-US-20070227-ROA.DOC

Attorney Docket # 2003B005/2

Claim 52 has been amended to state that "the polypropylene copolymer has a melting point (T<sub>m</sub>) of 165 °C or more". Support for the amendment may be found in claim 42 as originally filed and paragraph 68 of the application as originally filed.

Claims 53-63 are newly added. Support for the newly added claims may be found in Claims 30-32 and 44-49, paragraph 37 of the application, Table 2 of the application, and page 20 of the application, all as originally filed.

The above amendments were made in the interest of furthering prosecution and without undue prejudice to the scope of the claims.

#### **REJECTIONS UNDER 35 U.S.C. § 112**

Claims 29-31 and 33-49 are presently rejected under 35 U.S.C. § 112, second paragraph, as being indefinite. The Office Action asserts that ethylidene norbornene (correctly spelled ethylidene norbornene) should not be included within the definition of  $\alpha$ , internal non-conjugated diene. Applicant thanks the Examiner for pointing out the error in spelling, and has corrected the same. Applicant has amended paragraph 0072 to remove ethylidene norbornene from the list of possible  $\alpha$ , internal non-conjugated diene. This amendment has been made to correct an unintentional mistake, and without prejudice.

Accordingly, Applicant respectfully asserts that the pending claims are now definite, and respectfully requests the withdrawal of the rejection under 35 U.S.C. § 112, second paragraph.

#### **REJECTIONS UNDER 35 U.S.C. § 102**

Claims 29-31, 33-36, 38-41, 43-49, and 52 are rejected under 35 U.S.C. § 102 as being anticipated U.S. Pub. Pat. No. 2002/0013440 to Agarwal *et al.* ("440"). Applicant's independent Claims 29 and 52 are directed toward a copolymer composition comprising, *inter alia*, diene units, derived from 2-methyl-1,5-hexadiene or  $\alpha$ , internal, non-conjugated diene monomers. In this response, Applicant has corrected its definition of  $\alpha$ , internal, non-conjugated

USSN: 10/717,865

8 of 13

I:\PCLAW\Prosecution\EMCC Prosecution\2003\2003B005\US2003B005-3\2003B005-2-US-20070227-ROA.DOC

Attorney Docket # 2003B005/2

diene monomers to exclude ethylidene norbornene. In contrast, however, '440 discloses the preferred use of  $\alpha$ ,  $\omega$ -dienes, and lists cyclic dienes, such as vinylnorbornene as alternatives. See, '440 paragraphs 42 and 43.

Applicant submits that '440 fails to disclose, teach, or suggest—either expressly or inherently—the use of a copolymer composition comprising, *inter alia*, diene units, derived from 2-methyl-1,5-hexadiene or  $\alpha$ , internal, non-conjugated diene monomers. Accordingly, Applicant asserts that '440 fails to anticipate each and every element of its independent claims 29 and 52, as well as the respective dependencies. “A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.” See M.P.E.P. § 2131 citing *Verdegaul Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). Applicant therefore submits that its claims 29-31, 33-36, 38-41, 43-49, and 52 are not anticipated by '440, and respectfully requests the withdrawal of the rejection under 35 U.S.C. § 102 in view of '440. For similar reasons, Applicant asserts that its newly entered Claims 53-63 are not anticipated by '440. Applicant makes the above distinction between its pending claims and '440 in the interest of furthering prosecution, and without prejudice as to the patentability of claiming a copolymer composition comprising diene units derived from ethylidene norbornene diene monomers.

Claims 29-41, 43-49 and 52 are rejected under 35 U.S.C. § 102 as being anticipated Japanese Application 1994/025357A to Mitsui Toatsu Chemicals Inc (“357”).

Applicant has amended Claim 29 to recite, *inter alia*, that the polypropylene copolymer has a crystallization temperature ( $T_c$ ) of 110 °C or more. Support for the amendment is found in claim 36 as originally filed. With respect to now cancelled claim 36, the Examiner notes that '357 does not disclose the crystallization temperature ( $T_c$ ) of the polypropylene copolymer, but

USSN: 10/717,865

9 of 13

H:\PCH\LA\W\Prosecution\EMCC Prosecution\2003\2003B005\US\2003B005-2\2003B005-2-US-20070227-ROA.DOC

Attorney Docket # 2003B005/2

states that Applicant's claimed range is inherent. "The fact that a certain result or characteristic may occur or be present in the prior art is not sufficient to establish the inherency of that result or characteristic. See, M.P.E.P. § 2112 (IV) citing, *In re Rijckaert*, 9 F.3d 1531, 1534, 28 USPQ2d 1955, 1957 (Fed. Cir. 1993). Applicant asserts that the ethylene bis(1-indenyl) zirconium dichloride catalyst used in the '357 would not produce a polypropylene copolymer having a crystallization temperature (Tc) of 110 °C or more. As evidence of such, Applicant notes Table 1 within the reference Lee *et al.*, Copolymerizations of Olefins and Dienes With Homogeneous and Heterogeneous Catalysts, Eur. Polym. J. Vol. 33, No. 4 at 447-451 (1997) ("Lee"). Lee discloses the use of a Et(Ind)<sub>2</sub>ZrCl<sub>2</sub>-MMAO catalyst system, and reports a maximum Tc of 97°C. Accordingly, Applicant asserts that it has properly rebutted the Examiner's *prima facie* case "by evidence showing that the prior art products do not necessarily possess the characteristics of the claimed product." See, M.P.E.P. § 2112.01 (I) citing, *In re Best*, 562 F.2d at 1255, 195 USPQ at 433. See also, *Titanium Metals Corp. v. Banner*, 778 F.2d 775, 227 USPQ 773 (Fed. Cir. 1985). Therefore, Applicant respectfully requests that the Examiner withdraw the rejection under 35 U.S.C. § 102 in view of '357 of independent Claim 29.

Applicant asserts that dependent Claims 30-33 and 44-51 are not anticipated by '357 for at least the same reasons their independent Claim 29 is not anticipated. Therefore, Applicant respectfully requests that the Examiner withdraw the rejection under 35 U.S.C. § 102 in view of '357 to dependent Claims 30-33 and 44-51.

Applicant has amended Claim 52 to recite, *inter alia*, that the polypropylene copolymer has a melting point (Tm) of 165°C or more. Applicant notes in the Office Action dated November 30, 2006, the Examiner did not assert that the melting point of 165°C or more claimed within Claim 42 was anticipated by '357. Applicant has incorporated that recital within Claim

USSN: 10/717,865

10 of 13

F:\BPC\LA\Prosecution\NIMCC Prosecution\2003\2003B005\US\2003B005-2\2003B005-2-US-20070227-ROA.DOC

Attorney Docket # 2003B005/2

52 and asserts that Claim 52 is not anticipated by '357. Therefore, Applicant respectfully requests that the Examiner withdraw the rejection under 35 U.S.C. § 102 in view of '357 to independent Claim 52.

Applicant asserts that dependent Claims 53-63 are not anticipated by '357 for at least the same reasons their independent Claim 52 is not anticipated. Therefore, Applicant respectfully requests that the Examiner withdraw the rejection under 35 U.S.C. § 102 in view of '357 to dependent Claims 53-63.

Claims 29, 30, 32-35, 37-41, 43-50 and 52 are rejected under 35 U.S.C. § 102 as being anticipated by Lee.

Applicant has amended Claim 29 to recite, *inter alia*, that the polypropylene copolymer has a crystallization temperature (Tc) of 110 °C or more. Applicant notes in the Office Action dated November 30, 2006, the Examiner did not assert that the crystallization temperature (Tc) of 110°C or more claimed within Claim 36 was anticipated by Lee. Applicant has incorporated that recital within Claim 29 and asserts that Claim 29 is not anticipated by Lee. Therefore, Applicant respectfully requests that the Examiner withdraw the rejection under 35 U.S.C. § 102 in view of Lee to independent Claim 29.

Applicant asserts that dependent Claims 30-33 and 44-51 are not anticipated by Lee for at least the same reasons their independent Claim 29 is not anticipated. Therefore, Applicant respectfully requests that the Examiner withdraw the rejection 35 U.S.C. § 102 in view of Lee to dependent Claims 30-33 and 44-51.

Applicant has amended Claim 52 to recite, *inter alia*, that the polypropylene copolymer has a melting point (Tm) of 165°C or more. Applicant notes in the Office Action dated November 30, 2006, the Examiner did not assert that the melting point of 165°C claimed within

USSN: 10/717,865

11 of 13

I:\DPC\LA\Prosecution\FMCC Prosecution\2003\20030005\US\2003B005-2\2003B005-3-US-20070227-ROA.DOC

Attorney Docket # 2003B005/2

Claim 42 was anticipated by Lee. Applicant has incorporated that recital within Claim 52 and asserts that Claim 52 is not anticipated by Lee. Therefore, Applicant respectfully requests that the Examiner withdraw the rejection 35 U.S.C. § 102 in view of Lee to independent Claim 52.

Applicant asserts that dependent Claims 53-63 are not anticipated by Lee for at least the same reasons their independent Claim 52 is not anticipated. Therefore, Applicant respectfully requests that the Examiner withdraw the rejection 35 U.S.C. § 102 in view of Lee to dependent Claims 53-63.

### REJECTIONS UNDER 35 U.S.C. § 103

Claims 29-34, 37-39 and 43-52 are rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Pat. No. 5,166,273 to Kobayashi *et al* ("273").

As amended independent Claims 29 and 52 recite that the composition has a branching index of less than 1.0. Support for the amendment is found in paragraphs 25 and 26 of the application as originally filed. '273 discloses the use of a Ziegler-Natta catalyst. Col. 3, lines 43-45. Applicant respectfully asserts that the traditional Ziegler-Natta catalyst used by those of ordinary skill at the time '273 was conceived would have made a linear polyolefin, which would not have had a branching index of less than 1.0. Those of ordinary skill in the art at the time of '273 would not have been motivated to use the metallocene catalysts disclosed in Applicant's application to create a branched composition. Accordingly, Applicant respectfully requests that the rejection to Claims 29-34, 37-39 and 43-52 under 35 U.S.C. § 103(a) as unpatentable over '273 be withdrawn.

USSN: 10/717,865

12 of 13

I:\BPC\LA\Prosecution\EMCC Prosecution\2003\2003B005\US\2003B005-2\2003B005-2-US-20070227-ROA.DOC

Attorney Docket # 2003B005/2

**Conclusion**

In view of the foregoing remarks, Applicant respectfully submits that the application is now in condition for allowance, and respectfully requests issuance of a Notice of Allowance directed towards the pending claims.

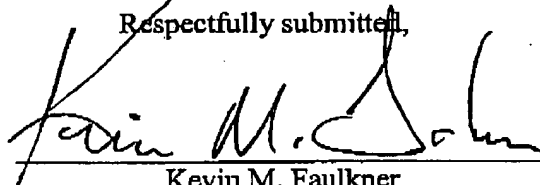
If necessary to effect a timely response, this paper should be considered as a petition for an Extension of Time sufficient to effect a timely response. Please charge any deficiency in fees or credit any overpayments to Deposit Account No. 05-1712 (Docket #: 2003B005/2).

---

February 27, 2007

Date

Respectfully submitted,



Kevin M. Faulkner  
Attorney for Applicants  
Registration No. 45,427

ExxonMobil Chemical Co.  
Law Technology  
P.O. Box 2149  
Baytown, Texas 77522-2149  
Phone: 281-834-5933  
Fax: 281-834-2495

USSN: 10/717,865

13 of 13

I:\BPC\LAW\Prosecution\BMCC Prosecution\2003\2003B005\US\2003B005-2\2003B005-2-US-20070327-ROA.DOC